

**ATTACHMENT II-8**

**SUPPLEMENTAL WASTE MANAGEMENT PLAN  
FOR  
F020-F023 & F026-F028 WASTES**

**SAFETY-KLEEN (LONE & GRASSY MOUNTAIN), INC.**

**GRASSY MOUNTAIN FACILITY  
EPA # UTD991301748**



## WASTE MANAGEMENT SUPPLEMENTAL PLAN

The following supplemental waste management criteria outline the requirements for the management and ultimate landfill disposal of wastes with EPA Hazardous Waste Codes F020-F023 & F026-F028 at the Grassy Mountain Facility. These wastes have been identified as hazardous wastes that are restricted from land disposal except as specifically provided otherwise by UAC R315-13-1 - Land Disposal Restrictions (40 CFR Part 268), therefore the management requirements set forth herein are compliant with these regulations. These waste-specific management requirements supplement all other applicable GMF regulatory and permit requirements.

{NOTE: Special requirements apply to the disposal of listed dioxin- and furan- wastes at the Grassy Mountain Facility. These requirements are described in this SUPPLEMENTAL WASTE MANAGEMENT PLAN, and all employees handling these wastes are to comply with this PLAN. Further, all employees are advised that the Land Disposal Restriction limits for the disposal of wastes bearing waste codes F020-F023 and/or F026-F028 is 1 ppb of each regulated dioxin congener. Wastes exceeding these limits may not be disposed of at the Grassy Mountain facility. Wastes that exceed the LDR limits may only be stored at the facility prior to shipment to another facility for treatment. Questions regarding these limits, or this PLAN, should be directed to either the Facility Manager, or the Environmental Manager.}

### **I. All LDR documentation required by 40 CFR 268 will be provided to GMF.**

- B. Any load of waste with EPA Waste Codes for dioxins, F020-F023 and/or F026-F028, which arrives at the facility without all required documentation will be held at the waste receiving and sampling area. For such loads, the generator or treatment facility that shipped the waste will be contacted, and asked to provide the missing documents; the waste may only be disposed of when the documentation is supplied and the waste meets the land disposal restrictions regulations specified in R315-13.

### **I. WASTE ANALYSIS**

- A. In addition to Attachment II-WAP of this permit, waste analysis data shall be provided for 20 percent of all listed dioxin (F020-F023 and/or F026-F028) waste shipments where the generator certifies meeting treatment standards. This data will be provided by the generator or by the treatment or disposal facility or by GMF. Grassy Mountain Facility will have this data prior to land disposal of the waste.

## **II. CONTAINERIZED STORAGE:**

- A. For purposes of the containerized storage of the wastes specifically designated herein as subject to the requirements of this supplemental waste management plan, "drum containerized" storage shall refer to all containers of a size and shape which can be safely and effectively placed in compliant storage within the Container Management Facility at the Grassy Mountain Facility and are subject to Module III of the State-Issued Part B Permit. All "bulk containerized" storage shall refer to all containers of a size and shape which do not allow storage within the Container Management Facility described hereinbefore,
- B. Containerized hazardous wastes subject to the requirements of this supplemental waste management plan shall be managed in accordance with UAC R315-8-9 as well as any supplemental requirements of this plan.
- C. Containerized storage of the hazardous wastes subject to the requirements of this supplemental waste management plan shall be in accordance with the following:
  - 1. Drum containerized wastes shall be stored within the Container Management Units at Grassy Mountain Facility. Such units shall meet the requirements of UAC R315-8-9.2(b)(1), (2), (4), and (5) (40 CFR 264.175(b)(1), (2), (4) and (5)). These drum containerized wastes shall be managed in accordance with the current requirements of Module III of the facility's DSHW/RCRA permit.
  - 2. Bulk containerized wastes shall be stored/staged at the receiving staging area of the Grassy Mountain Facility or the Bulk Solids Storage Area in accordance with the requirements of Module III of the facility's DSHW/RCRA permit, all of which shall meet the requirements of UAC R315-8-9.2(b)(1), (2), (4), and (5) (40 CFR 264.175(b)(1), (2), (4) and (5)).
  - 3. Additional supplemental management requirements are as follows:
    - a) All bulk containers of off-site origin shall have load liners for each load of wastes or waste treatment residues subject to this Supplemental Management Plan. If such containers are received at the Grassy Mountain Facility without a load liner, the generator will receive a subsequent notification accompanied by documentation in the facility

operating record;

- b) Containers of waste which are subject to this SWMP shall be handled at all times so as to prevent or minimize the release of dust or particulates from the waste. During handling of all wastes covered by this SWMP, no visible fugitive dust shall exit the waste management unit. Dust control measures are to be employed whenever fugitive dust may violate this limit, or waste handling must be suspended until the condition is corrected. All containers with the potential to release fugitive dusts shall remain covered during transport within the facility.
- c) Drums of wastes shall be kept closed at all times, except when wastes are being added or removed (e.g., sampling or placing into stabilization tanks).
  - (1) If drums containing potential fugitive emission wastes are opened outside of an enclosure, where winds may mobilize the contents, no more than one (1) drum may be opened at any given time.
  - (2) Drums which are emptied into the stabilization tanks shall be handled so as to minimize the generation of dust. Water shall be available to mist or spray the contents of the drums as they are emptied into the tanks and shall be used as needed whenever fugitive dusts are observed.
  - (3) Drums containing potential fugitive emission waste, which are directly placed in a landfill shall be carefully handled so that they do not rupture or lose their integrity while exposed.
- d) Bulk containers of waste shall be kept closed or covered at all times, except when wastes are being added or removed (e.g., sampling or placing into stabilization tanks).
  - (1) Bulk containers with the potential for fugitive emission may not be opened for sampling outside of an enclosure, or other protection from winds.

- (2) Bulk containers which are emptied into the stabilization tanks or directly into the landfill shall be handled so as to minimize the generation of dust. Water shall be available to mist or spray the contents of the containers as they are emptied into the tanks and shall be used as needed whenever fugitive dusts are observed.
- (3) It is anticipated that intact, bulk containers of wastes which are subject to this SWMP may be placed into the landfill cell for disposal. If such containers are directly placed in a landfill, they shall be handled so that they do not rupture or lose their integrity while exposed.

### **III. TANK STORAGE/TREATMENT VESSEL REQUIREMENTS:**

- A. Tanks and/or treatment vessels utilized for storage and/or further treatment of the wastes or waste treatment residues subject to the requirements of this supplemental waste management plan shall be limited to the Stabilization Treatment Tanks permitted in accordance with Module IV of the Grassy Mountain Facility RCRA permit. These units shall also meet the applicable containment and leak detection requirements of UAC R315-8-10 (40 CFR 264.193).
- B. Material being discharged into the stabilization tanks, which has the potential to release dust, will not be allowed to release visible fugitive dust emissions in quantities that can be observed leaving the stabilization unit. If fugitive emissions require control, a water spray will be available to mist or wet the load as it is discharged and shall be used as needed whenever fugitive dusts are observed. If needed, the water spray will also be used to control dust during mixing. Waste loads shall be covered while being moved to the landfill cell if there is the potential to release fugitive dusts during transport.
- C. Upgrades to the stabilization tanks, if any, shall be incorporated into this SWMP as they are adopted by Section IV of the Permit proper.
- D. Before changing the stabilization tank service from F020-F023 or F026-F028 wastes to other wastes, the tanks must be cleaned such that they contain a volume of no more than 0.3% of the dioxin/furan treated residual waste, compared to the total capacity of the tank. The unloading pad at the stabilization unit shall be swept or washed to remove any residual associated with the dioxin-related wastes, prior to stabilizing other wastes.



#### **IV. LANDFILL DISPOSAL REQUIREMENTS:**

- A. A hazardous waste landfill utilized for the disposal of the wastes or waste treatment residues subject to the requirements of this supplemental waste management plan shall meet the requirements of R315-13-1 (268.5(h)(2)(ii)) and be in compliance with the design and construction requirements of Module VIII of the Grassy Mountain Facility Permit.
- B. A hazardous waste landfill utilized for the disposal of the wastes or waste treatment residues subject to the requirements of this supplemental waste management plan shall be operated in accordance with all applicable requirements of UAC R315-8-14, Module VIII of the Grassy Mountain Facility Permit including, but not limited to such aspects as waste location, run on/run off, inspection, controlling wind dispersal, recordkeeping and stabilization treatment requirements.
- C. All wastes subject to the requirements of this supplemental management plan shall meet the treatment requirements set forth in R315-13-1 (40 CFR 268 Subpart D), applicable prohibitions set forth in RCRA Section 3004(d) and the free liquid requirements of Section III of this plan prior to being accepted for further management and ultimate disposal in a Grassy Mountain Facility hazardous waste landfill which meets the requirements of this section.
- D. Additionally, all stabilized loads of dioxin- or furan- contaminated wastes which are stored in a landfill cell while awaiting confirmation of stabilization, shall be prominently marked so as to be readily identified. This marking shall consist of a stake or lath, placed in the waste pile, the upper end of which shall be colored a bright red or "blaze orange" by means of tape, paint, flagging, or similar means.
- E. When loads of waste which are subject to this SWMP are directly landfilled, operators shall exercise due caution to minimize or prevent the release of particulates from the load, and their subsequent escape into the environment outside of the cell. Operators shall pay particular attention to Permit Condition VIII.H, Procedures to Control Wind Dispersal,. The unloading of material to be directly landfilled, which has the potential to release significant quantities of dust, will not be allowed to result in any visible dust beyond the boundary of the receiving unit. If fugitive emissions are a concern during unloading, a water spray will be used to mist or wet the load as it is discharged.

- F. All loads of F020-F023 and F026-F028 materials shall be managed so as to minimize potential fugitive emissions. All loads, including direct disposed or stabilized materials, shall be covered as soon as possible, but at least within 24 hours. Cover may be either temporary or permanent; temporary covers may consist of materials such as plastic sheeting, dust suppressing foam, or tarps, while permanent cover may be soils, rock, or other, non-potential fugitive emission wastes. Permanent cover shall be applied promptly after the removal of any temporary covers (within the same work shift).
- G. Compatibility Considerations The standard "fingerprint" analyses normally performed during waste receiving will continue to be performed on these wastes. Any anomalies detected during fingerprinting must be resolved prior to placement of the wastes in the landfill cell. For example, if a waste were to exhibit a reactive characteristic during fingerprinting that was not exhibited during pre-acceptance testing (e.g., produced sulfides), the source of the characteristic must be determined and the need for any additional treatment evaluated.
1. As with all other wastes, compatibility of the waste with other wastes in the landfill or with materials of construction of containers or tanks is evaluated.
  2. The reagents used to stabilize the wastes subject to this SWMP will be the same reagents used for other waste received at the Grassy Mountain Facility. Therefore, these wastes will remain compatible with other wastes, and with the landfill liners and leachate systems, after stabilization.
- H. The Permittee shall identify those grid locations in any cell which receive wastes managed under this SWMP. Leachate from the uppermost sumps serving the grids so identified shall be analyzed for dioxins and furans bi-annually via SW-846 Method 8280 analysis according to the WAP.

**V. REGULATORY REQUIREMENTS:**

UAC R315-14.11 (40 CFR 264.317) places special requirements upon the disposal of dioxin-coded wastes in landfills. This rule reads as follows:

**"14.11 Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027**

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 shall not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Executive Secretary pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements. The factors to be considered are:

- (1) The volume, physical and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;
- (2) The attenuative properties of underlying and surrounding soils or other materials;
- (3) The mobilizing properties of other materials co-disposed with these wastes; and
- (4) The effectiveness of additional treatment, design or monitoring requirements.

(b) The Board may determine that additional design, operating and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment."

Each of these is discussed below.

**R315-8-14.11(a)(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;**

The total volume of wastes subject to this proposed modification and supplemental management plan which may be managed at the facility cannot be accurately represented by a finite or reasonably estimated value.

The physical characteristics of the wastes will mostly consist of mostly solid matter, such as soil and similarly inert non-incinerable material. The requirements of acceptance and management of these wastes require that either they include no free liquids or that they be treated at the Grassy Mountain Facility, most likely by stabilization, to react any free liquids to meet this physical characteristic standard set forth in the permit and the supplemental management plan. As described below, the wastes may receive further treatment for stabilization of heavy-metal components.

Since the landfills exceed the RCRA regulation design requirements, there is no reason to have concern that these wastes will be able to migrate through the soil. It is also unlikely that the wastes received at GMF for disposal will be volatile. Volatile wastes would normally be sent for incineration first. Also, since the concentration of dioxins must be < 1

ppb there would not be much to volatilize even if it were volatile. If dioxin coded wastes were to sent to GMF for disposal, they would be treated in one of the following ways:

- containerized waste that is placed directly into the landfill in the containers;
- bulk waste that is placed directly into the landfill;
- bulk or containerized waste that must first be stabilized either to remove liquids and/or to stabilize regulated metal constituents.

In addition, these wastes will either be dusty, i.e. relatively easily dispersed by the wind, or they will not be dusty. The highest potential for dispersal of these wastes will be if they are dusty and this SWMP addresses reducing wind dispersal of wastes.

In summary, the USEPA has studied dioxin- and furan- contaminated wastes extensively, and the resulting Land Disposal Restriction limits have been set at levels that have been determined to be protective of human health and the environment. This includes the possibility of air emissions of volatile components or from wind dispersal. Only wastes showing that these standards have been met may be accepted. Therefore, these wastes provide no known opportunity for levels of the organic constituents for which the original waste stream was listed to volatilize or otherwise migrate from the residues to deleteriously affect human health or the environment when placed in a hazardous waste landfill meeting the requirements set forth in this supplemental management plan.

**R315-8-14.11(a)(2) The attenuative properties of underlying and surrounding soils or other materials;**

The facility is located within the Old Bonneville Lake bed. This formation is a silty clay deposit believed to be up to 10,000 feet thick. The formation contains no potable water and the water within the formation contains total dissolved solids which range between 50,000 and 100,000 mg/l. The sediments underlying the site have a range in permeability from  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ , a very flat hydraulic gradient, and exhibits extremely high sodium concentrations thus providing a combined result of extremely slow rates of movement of groundwater. The facility receives approximately 5 inches of precipitation per year and exhibits an evaporation rate of over 40 inches per year. There are no rivers or streams within 20 miles of the facility and the nearest body of water is the Great Salt Lake, which is 30 miles east of the facility.

In addition to the very favorable hydrogeologic conditions at the facility the hazardous waste landfills utilized for disposal of the subject wastes exceed the design and construction requirements of R315-8-14. The features which create greater safety to human health and the environment include the addition of a third synthetic liner and an additional leak detection system.

**R315-8-14.11(a)(3) The mobilizing properties of other materials co-disposed with**

**these wastes;**

The recent regulatory history of this industry has seen the development of statutes that drastically restrict the landfill disposal of wastes which have mobilizing properties which would contribute to the future release of hazardous constituents, whether a component of the original waste stream or by virtue of contact through co-disposal with another waste stream. A prime example of these statutes are the Land Disposal Restrictions. Other contributing controls are those limiting free liquid in waste. This factor and other constituent immobilization considerations (i.e heavy metals) have set the stage for the use of stabilization of wastes, which treatment affects many of the wastes destined for landfill disposal.

In the case of the Grassy Mountain Facility, most wastes are either somewhat basic in nature as received, or are stabilized using basic materials such as lime or cement kiln dust. As a result, the bulk of materials placed in the landfill are chemically basic; the incineration residues proposed for disposal will also be neutral-to-basic in nature, and will therefore be fully compatible with the wastes in the cell.

Therefore, with a very high percentage of wastes subject to stabilization and other forms of treatment as well as strict landfill disposal restrictions of solvent and other organic content wastes typical of more environmentally mobile wastes, there is virtually no opportunity for mobilization of the minor treatment-reduced levels of hazardous constituents by virtue of co-disposal.

**R315-8-14.11(a)(4) The effectiveness of additional treatment, design, or monitoring requirements.**

No specific additional treatment has been required as part of this supplemental management plan for the F020-F023 and F026-F027 constituents in the waste and waste treatment residues which are subject to the plan. As mentioned above, however, the current regulations and permit conditions, made a part of the specific plan and which currently are in effect for all operations at the Grassy Mountain Facility, require that other constituents (e.g., heavy metals) also be treated to the standards specified by R315-13 (40 CFR Part 268). These standards provide adequate safeguards to effectively protect human health and the environment.

The additional design and construction requirements adopted for this supplemental plan are those under current use at the Grassy Mountain Facility. These requirements provide for all units receiving the subject wastes to be in compliance with all secondary containment and leak detection requirements of UAC R315-8-14.2. In addition, as previously mentioned, GMF currently has prescribed corporate standards for land disposal units at this facility that provides additional protection by virtue of the addition of a third synthetic liner and an additional leak detection layer beyond the regulatory requirements. Further, very strict and structured quality assurance and quality control procedures for the construction of these

units has been provided through these standards and historic experience in the industry.

Since very complex, technically advanced groundwater and leachate monitoring is in place for the land disposal units pursuant to the current permit, which is referenced as part of this management plan, no additional monitoring is considered necessary. The monitoring of the operation and maintenance of all other affected units subject to this management plan is also effectively controlled by the current permit, (referenced as part of the supplemental management plan) therefore no additional monitoring is recommended.

Additional analytical monitoring, though not specifically related to the land disposal unit (as is the intent of this subparagraph), has been included in the form of more frequent performance of F028 waste analysis. This is set forth in Section III of the supplemental management plan for laboratory analysis of twenty percent of all in-coming loads of this waste stream.

**APPENDIX 1 TO:**

**SUPPLEMENTAL WASTE MANAGEMENT PLAN  
FOR  
F020-F023 & F026-F028 WASTES**

**Procedures to Control Wind Dispersal**



The following procedures are repeated from Permit Condition VIII.H. These procedures are to become a part of this SWMP, and be followed when any F020-F023 or F026-F028 wastes are placed in a landfill cell at Grassy Mountain.

#### **VI.G. PROCEDURES TO CONTROL WIND DISPERSAL OF WASTES**

- VI.G.1. The Permittee shall comply with the requirements of R315-8-14.2(f) by covering material subject to wind dispersal within 24 hours of placement in the cell. The cover shall be maintained until additional wastes are applied to that portion of the cell. The cover shall only be as follows:
- a. Heavier bulk material (greater density);
  - b. Mechanically-sprayed water; or
  - c. Dust-suppressing foam; or
  - d. Other suitable material as approved by the Executive Secretary.
- VI.G.2. The Permittee shall not substitute leachate for water in controlling wind dispersal.
- VI.G.3. Water shall not be sprayed to the extent that ponding occurs in the landfill.
- VI.G.4. The Permittee shall cease operation of the landfill cell (i.e. transporting waste into the cell and heavy vehicle movement within the cell) when windy conditions prevent the implementation of procedures to control wind dispersal or when wastes are observed blowing from a cell.



**APPENDIX 2 TO:**

**SUPPLEMENTAL WASTE MANAGEMENT PLAN**  
**FOR**  
**F020-F023 & F026-F028 WASTES**

**Analytical Procedures and Frequencies**



TEST METHODS AND FREQUENCIES	LOAD FROM GENERATOR	BATCH FROM STABILIZATION
FINGERPRINT TEST(S) AND DATA VALIDATION	<p>All current fingerprint tests, as specified in Part B Permit, Attachment II-WAP</p> <p>All data from the facility generating the waste must be reviewed and validated for compliance with LDR standards before the waste is accepted for disposal. The checklist for compliance with these standards (attached) must be satisfactorily completed for each load.</p>	Residues from wet or dry scrubbers shall be kept separate and shall not be mixed with slag or ash.
ANALYTICAL TEST METHOD(S)	<p>For fingerprinting, Methods shall be those specified in the WAP.</p> <p>SW-846 Method 8280 shall be performed on each matrix as specified below.</p>	As specified in WAP.
EXTRACTION METHOD(S)	Standard Prep Method for Method 8280	SW-846 Method 1311 (TCLP) followed by analysis for metals as required by the WAP, for LDR Standards.
FREQUENCY OF TESTS	<p>Every load shall be fingerprinted. A load is defined as one truck or one rail car.</p> <p>For Method 8280, the GMF shall analyze the first load received, and must also analyze at least one sample per year from each generator.</p>	In accordance with the WAP. Air pollution control device residues shall be kept covered until test results are known. Storage piles in the landfill shall be identified and marked with a bright red or blaze orange-colored lath.

**DIOXIN- AND FURAN-CONTAMINATED WASTES  
LDR ANALYTICAL DATA VERIFICATION CHECKLIST FOR  
SW-846 METHOD 8280**

Manifest No.	Date Received _____, 20____	Date this Checklist Completed _____, 20____
Generator/TSDf Name	EPA ID No.	GM Profile No.
<b><u>LABORATORY DATA:</u></b>  <b>Indicate Data Validity With Y. IF ANY ANSWER IS NO, CONSULT WITH GENERAL MANAGER BEFORE MANAGING THE LOAD!!!</b>		
If the certification specifies compliance with the LDR standards for dioxins and furans, is Laboratory Data attached which demonstrates that compliance (< 1 ppb for each congener)*?		
<b>Place Numerical Values in Right Hand Column, Indicate Data Validity With Y. IF ANY ANSWER IS NO, CONSULT WITH GENERAL MANAGER BEFORE MANAGING THE LOAD!!!</b>		
Were Samples Extracted Within 30 Days and Analyzed Within 45 Days of Collection?		
Method Detection Limits Reported:		
Does Quantification Report Contain MDLs as Detection Limit?		
Is the Laboratory QA/QC data package attached*? (The QA/QC package must include data on Instrument Calibration, Calibration Reagents, Analytical Blanks, Matrix Spikes, Surrogates, Duplicates, Check Standards, Detection Limits achieved)		
Are Instrument Calibration Data Included?		
Are Initial Calibration Standards Those Specified in Paragraph 6.2 of Method 8280 (copy of Method attached)?		
Is Percent Relative Standard Deviation of the Relative Response Factors For Each Calibration Standard ? 15%?		
Were Laboratory "Method Blanks" Run? (see Method 8280, section 7.2)		
Were Method Blanks Reported With No Interferents?		
Were Recovery Standards Added To The Samples Prior to Injection? (see Method 8280, section 10.2)		
Were Concentration of the Recovery Standard The Same as Calibration Standards Used to Measure RFs? (see Method 8280, section 10.2)		
Load Checklist completed by:	_____ (Printed Name)	_____ (Signature)
Load Approved for acceptance under SWMP? (Yes/No)===>		

\* IF THIS DATA DOES NOT MEET LDR STANDARDS OR IF QA/QC DATA IS NOT ATTACHED, THIS LOAD MAY NOT BE DISPOSED UNTIL IT IS OBTAINED; CONTACT THE SHIPPER.